

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION

FACT SHEET (pursuant to NAC 445A.874)

Permittee Name: **Fayeghi Texaco**
Permit Project: **Fayeghi Texaco**
Permit Number: **UNEV95211 (Renewal)**

A. Description of Injection

Location: The single network of eight (8) injection wells is located at 3283 North Las Vegas Blvd., North Las Vegas, Nevada 89115, in the SW¼ of Section 7, T20S, R62E; MDB&M in Clark County.

Characteristics: This is a permit renewal for continued authorization to inject a 3.5 % hydrogen peroxide solution prepared with dechlorinated water. The solution will continue to be injected at a maximum of 4,500 gallons per quarter.

B. Synopsis

Remedial action at the Fayeghi Texaco is the result of a leaking underground storage tank (LUST). Dissolved product was identified at the site in concentrations exceeding drinking water quality standards and State action levels.

The original Underground Injection Control permit was issued on May 13, 1996. The initial remediation effort entailed the use of a cyclic, closed bioremediation process utilizing four sparge wells and seven extraction wells. Air from the contaminated vadose zone was extracted from the seven vapor extraction wells. The proposed mechanism for this system was to treat the extracted vapor in a "bioreactor" chamber which was claimed to remove approximately 70 % of the hydrocarbons with the use of bacteria, heat, and oxygen. The heated, oxygenated air was to be subsequently reinjected into the four sparge wells. The air flow-path was through the groundwater, volatilizing petroleum hydrocarbons, and then up into the vadose zone where it could be extracted again through the vapor extraction wells and flow back into the unit, completing the loop.

This system was determined to be significantly less effective than anticipated and peroxide injection was consequently initiated as the preferential remediation option in 1997.

Two municipal wells owned by the City of North Las Vegas, Gowan #1 and Gowan #2, are in the near vicinity of this site. Gowan #1 lies downgradient of the Fayeghi contamination source and Gowan #2 lies downgradient of a neighboring contamination source stemming from a Rebel gasoline station. In 1996 both municipal wells were outside of the contamination plumes. There was significant concern regarding the vulnerability of the

wells based upon their location as well as their questionable mechanical integrity. The wells are gravel-packed from 50' to 700' bgs which extends from the contaminated aquifer down to the various lower aquifers from which drinking water is extracted.

In 2000, Gowan #2 was impacted by MTBE from the Rebel plume at concentrations below 20 ppb. Both municipal wells were subsequently taken out of service and are scheduled for plugging and abandonment during 2001.

The Fayeghi Texaco plume has been remediated at the leading edge and contamination remains mainly near the source. Monitoring in the immediate vicinity of Gowan #1 has been eliminated due to data which demonstrates that the contamination is contained near the source and is not a threat. The current monitoring requirements will detect any new releases or anomalous contamination migration activities.

The 3.5 % hydrogen peroxide solution utilized at this site will be generated utilizing dechlorinated water. The solution will be injected directly into the authorized injection wells. The wells authorized for injection include FMW-1, FMW-2, FMW-3, FMW-4, FMW-9, FMW-17, RMW-10 and VE-4. (See Attachment A for Site Map).

The hydrogen peroxide is expected to provide a source of oxygen for the indigenous microbes which should enhance the in-situ bioremediation process for the contaminants present at this site.

C. Receiving Water Characteristics:

Groundwater sampling at this site has demonstrated the presence of dissolved petroleum hydrocarbons. Chlorinated solvents have not been detected in either the soil or the groundwater below this site. The contaminant concentrations are in excess of the State and Federal action levels.

The geology encountered during well construction at this site consists of gravelly sand from surface to approximately 10' bgs which overlies clay and silt mixtures from approximately 10' to 70' bgs. Depth to ground water is approximately 50 feet and the average local gradient is estimated at 0.031 ft/ft in the east-southeast direction.

The groundwater quality at this site has greatly improved since the initiation of remediation activities. Table 1 demonstrates contamination level changes between 1995/1996 and December 2000.

Table 1

Constituent	Groundwater Concentration (1995-1996)	Groundwater Concentration (Dec 2000)	Limit
Benzene	17,100 ppb	360 ppb	5 ppb (State and Federal Limit)
Toluene	4,660 ppb	270 ppb	100 ppb (State Limit)
Ethylbenzene	1,460 ppb	69 ppb	100 ppb (State Limit)
Xylenes (total)	14,560 ppb	1,400 ppb	200 ppb (State Limit)
MTBE	23,860 ppb	56 ppb	200 ppb (Site Specific Target Level)

D. Procedures for Public Comment

Notice of the Division's intent to re-issue a permit authorizing the facility to continue injection into the groundwater of the State of Nevada will be sent to the Las Vegas Review Journal for publication. The notice will be mailed to interested persons on our mailing list (See Attachment B).

Anyone wishing to comment on the proposed permit can do so in writing for a period of 30 days following the publication date of the said public notice. The comment period can be extended at the discretion of the Administrator. All written comments received during the comment period will be retained and considered in the final determination.

A public hearing on the proposed determination can be requested by the applicant, any affected state, any affected interstate agency, the regional administrator of EPA Region IX or any interested agency, person or group of persons.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings will be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

E. Proposed Determination

The Division has made the tentative determination to re-issue the proposed permit for a five year period.

F. Proposed Limitations and Special Conditions

PARAMETER	FREQUENCY	LOCATION	LIMITATIONS
Benzene, Toluene, Ethylbenzene, total Xylenes (BTEX), and methyl tertiary butyl ether (MTBE)	Quarterly (Samples shall be taken no sooner than 10 days following injection event)	FMW-1, FMW-2, FMW-5, FMW-8, FMW-9, FMW-10, FMW-12 and FMW-17	Monitor and Report
Dissolved Oxygen and pH	Quarterly	FMW-1, FMW-2, FMW-5, FMW-8, FMW-9, FMW-10, FMW-12 and FMW-17	Monitor and Report
Iron II	Quarterly	FMW-1, FMW-2, FMW-5, FMW-8, FMW-9, FMW-10, FMW-12 and FMW-17	Monitor and Report
Hydrogen peroxide: Concentration Volume Date Injected	Each Injection Event	All Authorized Injection Wells	3.5 % Solution with a maximum of 4,500 gallons every quarter
Groundwater Elevation and Depth to Groundwater	Quarterly	All Site-Related Monitoring Wells	Monitor and Report

G. Rationale for Permit Requirements

The permit conditions will help to ensure that the injectate does not adversely affect the existing water quality or hydrologic regime.